



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

*ck*

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,215	09/22/2005	Gary Escher	277605US6YAPCT	1669
22850	7590	10/02/2006	EXAMINER	
C. IRVIN MCCLELLAND OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			YEVSNIKOV, VICTOR V	
			ART UNIT	PAPER NUMBER
			2891	

DATE MAILED: 10/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/550,215

Applicant(s)

ESCHER ET AL.

Examiner

Victor V. Yevsikov

Art Unit

2891

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-14 and 16-19 is/are rejected.
- 7) ☒ Claim(s) 4 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/12/6; 5/16/6</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1, 5<sup>2</sup>–12 and 16 –19 are rejected under 35 U.S.C. 102(a) as being anticipated by Shatrov (U.S. 2003/0188972).

With respect to claims 1 and 12, Shatrov teaches a method of forming a protective barrier on a processing element and a protective barrier on a processing element utilized in a processing system for performing a process comprising:

a bonding layer 200 coupled to the processing element 100, wherein the bonding layer 200 comprises a layer formed using plasma electrolytic oxidation (§§ 0004, 0005; 0069, 0081, and

a protective layer 300 coupled to the bonding layer and configured to be exposed to the process with reference to Fig. 3.

Regarding claims 5 – 8 and 16 –19, Shatrov teaches the protective layer 300 comprises a compound containing at least one of a III-column element Yttrium and Lanthanum, Cerium, and oxides of Al, Y, Ce ((§§ 0056, 0081).

Regarding claim 9, Shatrov teaches the processing element 100 comprises a metal, a silicon based material, and a ceramic (abstract; §§ 0004, 0069, 0081; fig.3).

Art Unit: 2891

Regarding claim 10, Shatrov teaches the processing element comprises aluminum (table 1).

Regarding claim 11, Shatrov teaches the process comprises a plasma (see abstract).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

Art Unit: 2891

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2 – 3 and 13 –14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shatrov in view of Daragheh (US 2003/0150419).

With respect to claims 2 – 3 and 13 –14, Shatrov teaches the features detailed previously, but lacks a discussion on the method, wherein the bonding layer comprises Keronite and the Keronite comprises a transition layer, a primary layer, and an outer layer.

However, Daragheh teaches a method, wherein the bonding layer comprises Keronite and the Keronite comprises a transition layer, a primary layer, and an outer layer (§§ 0005, 0006, 0017) and this coating is a complex oxide ceramic produced by surface oxidation electrolysis of aluminum) for the benefit of providing a good bond, wear resistance and thermal insulating effect in paragraph 17.

Therefore, it would have been obvious to one of ordinary skill in the art to use protective barrier using Keronite for the benefit of providing a good bond, wear resistance and thermal insulating effect as taught by Daragheh in paragraph 17.

### ***Claim Objections***

Claims 4 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2891

Claims 4 and 15 detail limitations which are not found in the claims of the US 2003/0188972 and US 2003/0150419 and which would not have been obvious to one of ordinary skill in the art to modify to achieve the application's claims.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor Yevsikov whose telephone number is (571) 272-1910. The examiner can normally be reached on Monday –Thursdays 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, examiner's supervisor, William B. Baumeister, can be reached on (571) 272-1722. The fax phone numbers for the organization where this application or processing is assigned is (703) 873-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published application may be obtained from either Private PAIR or Public PAIR. Status information for unpublished application is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



September 27, 2006

**ASOK K. SARKAR**  
**PRIMARY EXAMINER**

Victor Yevsikov  
Examiner

*Asok Kumar Sarkar*  
9/27/05